

Attachment B

CLAIMS AS THEY WILL STAND UPON ENTRY OF THE AMENDMENT

2. (Amended) An isolated zinc finger-nucleotide binding polypeptide variant comprising at least two zinc finger modules wherein the amino acid sequence of at least one zinc finger module of said variant has at least one amino acid sequence modification, wherein said variant binds a polynucleotide sequence different from a sequence bound by a zinc finger-nucleotide binding polypeptide not having amino acid sequence modification and wherein the amino acid sequence of each zinc finger molecule that binds a polynucleotide sequence different from a sequence bound by a zinc finger-nucleotide binding polypeptide not having amino acid sequence modification comprises two cysteines and two histidines, whereby both cysteines are amino proximal to both histidines.
3. (Amended) The variant of claim 2, wherein the zinc finger-nucleotide binding polypeptide is a variant of a protein selected from Zif268 or TFIIIA.
4. The variant of claim 2, wherein the polypeptide contains a linker region between zinc finger modules, the linker comprising the amino acid sequence TGEKP.
5. The variant of claim 2, wherein the zinc finger binding polypeptide variant is a truncated zinc finger protein.
16. (Amended) The isolated zinc finger-nucleotide binding polypeptide variant of claim 2, comprising at least three zinc finger modules wherein at least one module binds to a cellular nucleotide sequence and wherein said variant binds a polynucleotide sequence different from a sequence bound by a zinc finger-nucleotide binding polypeptide not having amino acid sequence modification.

17. The isolated zinc finger-nucleotide binding polypeptide variant of claim 2, comprising at least five zinc finger modules wherein at least one module binds to a cellular nucleotide sequence.
18. The isolated zinc finger-nucleotide binding polypeptide variant of claim 2, wherein the polypeptide binds to a cellular nucleotide sequence having 18 contiguous base pairs.
19. The isolated zinc finger-nucleotide binding polypeptide variant of claim 2, wherein the polypeptide binds to a cellular nucleotide sequence comprising two 9-base pair binding sites.
40. An isolated zinc finger-nucleotide binding polypeptide variant produced by a method for isolating a zinc finger-nucleotide binding polypeptide variant which binds to a cellular nucleotide sequence comprising:
 - a) identifying the amino acids in a zinc finger-nucleotide binding polypeptide that bind to a first cellular nucleotide sequence and modulate the function of the nucleotide sequence;
 - b) creating an expression library encoding the polypeptide variant containing randomized substitution of the amino acids identified in step a) above;
 - c) expressing the library in a suitable host cell; and
 - d) isolating a clone that produces a polypeptide variant that binds to a second cellular nucleotide sequence and modulates the function of the second nucleotide sequence,wherein the variant is comprised of at least two zinc finger modules and wherein the amino acid sequence of at least one module that binds the second nucleotide sequence comprises two cysteines and two histidines whereby both cysteines are amino proximal to

both histidines and wherein at least one of the at least two modules of said variant has at least one amino acid sequence modification.

42. (Amended) A hybrid zinc finger protein that binds to a target nucleic acid, the hybrid zinc finger comprising zinc fingers from a first protein linked to zinc fingers from a second protein different from the first protein, wherein the hybrid zinc finger binds a polynucleotide sequence different from a sequence bound by individual modules of the first protein and the second protein and wherein the amino acid sequence of each zinc finger protein that binds a target nucleic acid comprises two cysteines and two histidines, whereby both cysteines are amino proximal to both histidines.
43. The hybrid zinc finger protein of claim 42, wherein at least two of the zinc fingers are variant zinc fingers.
44. The hybrid zinc finger protein of claim 42, wherein the variant zinc fingers are mutagenized forms of natural zinc fingers.
45. The hybrid zinc finger protein of claim 42 that modulates expression of the target nucleic acid.
46. The hybrid zinc finger protein of claim 42, wherein the amino acid sequence of each zinc finger comprises two cysteines and two histidines whereby both cysteines are amino proximal to both histidines.